

What is Claimed Is:

1. A method for providing conversational communication with entities in a network, comprising the steps of:

establishing connection to a distributed network using a client device;

5 obtaining, by the client device, a description of one or more commands that enable user interaction with one or more entities in the distributed network, wherein the commands are described independent of user language, access channel, client device I/O (input/output) modality, regional settings or international settings;

10 receiving as input, by the client device, a user gesture provided by the user for communicating with a target entity; and

processing, by the client device, the input user gesture to determine the target entity and invoke a command associated with the target entity.

2. The method of claim 1, wherein the input user gesture comprises a verbal utterance or a physical movement by the user, or a combination thereof.

15 3. The method of claim 1, wherein the commands comprise elementary components of interaction that are described using an interaction-based programming model.

4. The method of claim 1, wherein at least one or all of the commands are part of a predefined, finite set of elementary commands known *a priori* by the client
20 device.

5. The method of claim 1, wherein the step of obtaining comprises communicating with a server in the distributed network to obtain a list of entities in the network and associated commands, which are registered with the server.

5 6. The method of claim 1, further comprising the client device adapting the commands based on user preferences or device characteristics or a combination thereof.

7. The method of claim 6, wherein adapting the commands based on user preferences comprises adapting the commands based on a user-specified language, or adapting the commands based on types of commands specified by user gestures, or a
10 combination thereof.

8. The method of claim 6, wherein adapting the commands based on device characteristics comprises rendering a user interface based on one or more I/O modalities of the client device, one or more target channels, or a combination thereof.

9. The method of claim 8, wherein rendering a user interface comprises
15 rendering a synchronized multi-modal interface.

10. The method of claim 1, wherein processing the input user gesture comprises translating the input user gesture to a relevant command using transformation rules.

11. The method of claim 10, wherein translating comprises mapping the input user gesture to a relevant command using transformation rules defined, in part, by the user preferences.

5 12. The method of claim 10, wherein the transformation rules are stored in the client device.

13. The method of claim 10, further comprising obtaining the transformation rules from a remote repository.

10 14. The method of claim 10, wherein the transformation rules are implemented using XSLT or beans.

15. The method of claim 1, wherein establishing communication comprises establishing an ad hoc wireless connection.

15 16. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for providing conversational communication with entities in a network, the method steps comprising:
establishing connection to a distributed network using a client device;
obtaining, by the client device, a description of one or more commands that enable user interaction with one or more entities in the distributed network, wherein the

commands are described independent of user language, access channel, client device I/O (input/output) modality, regional settings or international settings;

receiving as input, by the client device, a user gesture provided by the user for communicating with a target entity; and

5 processing, by the client device, the input user gesture to determine the target entity and invoke a command associated with the target entity.

17. The program storage device of claim 16, wherein the input user gesture comprises a verbal utterance or a physical movement by the user, or a combination thereof.

10 18. The program storage device of claim 16, wherein the commands comprise elementary components of interaction that are described using an interaction-based programming model.

19. The program storage device of claim 16, wherein at least one or all of the commands are part of a predefined, finite set of elementary commands known *a priori* by
15 the client device.

20. The program storage device of claim 16, wherein the instructions for obtaining comprise instructions for communicating with a server in the distributed network to obtain a list of entities in the network and associated commands, which are registered with the server.

21. The program storage device of claim 16, further comprising instructions for the client device adapting the commands based on user preferences or device characteristics or a combination thereof.

22. The program storage device of claim 21, wherein the instructions for
5 adapting the commands based on user preferences comprise instructions for adapting the commands based on a user-specified language, or adapting the commands based on types of commands specified by user gestures, or a combination thereof.

23. The program storage device of claim 21, wherein the instructions for
adapting the commands based on device characteristics comprise instructions for
10 rendering a user interface based on one or more I/O modalities of the client device, one or more target channels, or a combination thereof.

24. The program storage device of claim 23, wherein the instructions for
rendering a user interface comprise instructions for rendering a synchronized multi-modal
interface.

15 25. The program storage device of claim 16, wherein the instructions for
processing the input user gesture comprise instructions for translating the input user
gesture to a relevant command using transformation rules.

26. The program storage device of claim 25, wherein the instructions for translating comprise instructions for mapping the input user gesture to a relevant command using transformation rules defined, in part, by the user preferences.

5 27. The program storage device of claim 25, wherein the transformation rules are stored in the client device.

28. The program storage device of claim 25, further comprising instructions for obtaining the transformation rules from a remote repository.

29. The program storage device of claim 25, wherein the transformation rules
10 are implemented using XSLT or beans.

30. The program storage device of claim 16, wherein the instructions for establishing communication comprise instructions for establishing an ad hoc wireless connection.

31. A system for providing conversational communication with entities in a
15 network, comprising:

a communications network comprising an entity, wherein an application associated with the entity comprises interaction dialog that is described in a manner which is independent of user language, access channel, device I/O (input/output) modality, regional settings or international settings; and

an access device for enabling a user to communicate with the entity, wherein the access device comprises a dialog manager that adapts the interaction dialog based on user preferences and/or device characteristics.

32. The system of claim 31, wherein the interaction dialog comprises one or more elementary commands that are part of a predefined, finite set of elementary commands.

33. A method for providing conversational communication with entities in a network, comprising the steps of:

establishing connection to a distributed network using a client device;

obtaining, by the client device, a description of one or more commands that enable user interaction with one or more entities in the distributed network, wherein the commands are described independent of user language, access channel, client device I/O (input/output) modality, regional settings or international settings;

receiving as input, by the client device, a user gesture provided by the user for communicating with a target entity; and

adapting the commands in accordance with user preference specifications or characteristics of the client device, or both, to invoke a command associated with the input user gesture.

34. The method of claim 33, wherein adapting is performed by client-side processing.

35. The method of claim 33, wherein adapting is performed by server-side processing.

36. The method of claim 33, wherein adapting is performed by a combination of server-side and client-side processing.